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PROTEIN CONTENT

...OF...

MONTANA WHEAT

1951 and 1952 Crops

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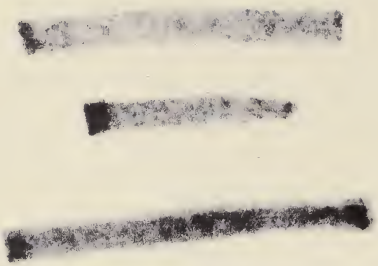

PROTEIN CONTENT OF MONTANA WHEAT

Wheat Production By Protein Content Groups

For

Principal Wheat Producing Counties

1951 and 1952 Crops

* * *

Premiums Offered for Protein In Wheat
1933 to 1952

MONTANA DEPARTMENT OF AGRICULTURE

ALBERT H. KRUSE, Commissioner

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF AGRICULTURAL ECONOMICS

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HELENA, MONTANA

R. M. A. Project 431-34

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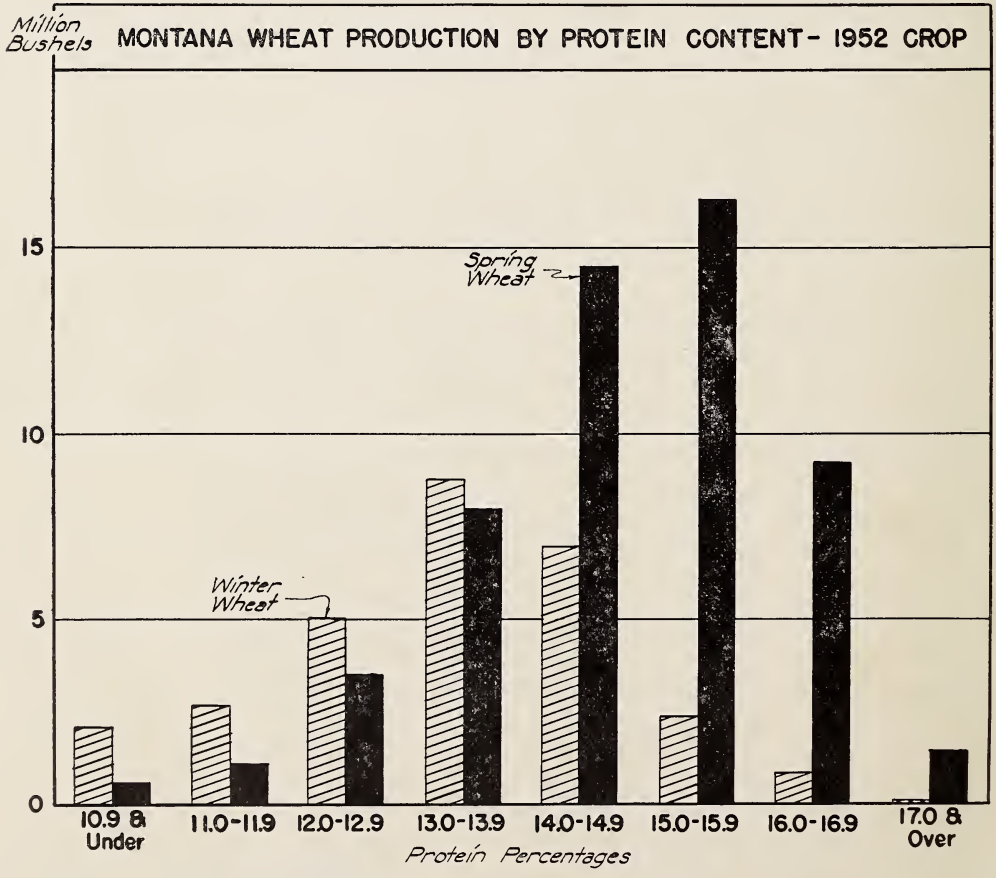
MONTANA'S PROMINENCE IN PRODUCTION OF HIGH PROTEIN WHEAT

Much of the flour used today for making bread is milled from hard wheats containing prescribed amounts of protein. Soon after the development of the bread baking industry, a definite market was established for wheats of high protein content. Through research studies commercial bakeries found that protein was an essential element in the flours they needed to make certain types of bread. To produce such flours, the millers have usually found it necessary to blend some wheats of high protein with wheats of lower protein. While the bulk of the nation's wheat crops are comprised of hard, red types suitable for white bread flour, the amount of protein in these wheats fluctuates significantly with each crop. When the protein content is low the demand for high protein wheat increases and visa versa. The relative demand for high protein wheat is evident by the protein premiums offered to growers and dealers.

To help meet the market for high protein wheat, experiment stations have developed varieties of wheat of higher protein content. Tillage and rotation practices and certain kinds of fertilizer increase the protein in wheat. It appears, however, that climatic conditions during the growing season have the greatest effect on the amount of protein contained in the harvested wheat kernal. Observers have found that protein is usually high when the wheat crop



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matures with dry, warm weather. Most of the Montana wheat is matured and harvested under these conditions. The protein content is generally highest when temperatures are high and rainfall light during July and early August. Weather Bureau records show that average precipitation in Montana during July is only slightly more than half of the average for June and about two-thirds the amount for May. Also that mean July temperatures are nearly 8 degrees higher than June and about 15 degrees higher than May. Such climatic conditions favor Montana for the production of high protein wheat and generally this State tops the list in the production of wheat containing 15 percent or more protein. Most of the wheat produced in Montana contains more than 14 percent protein and some exceeds 17 percent. During the decade, 1941 to 1950, approximately 61 percent of the wheat harvested was spring wheat which contained 1½ to 2 percent more protein than winter wheat. However, the amount of protein in Montana's winter wheat usually runs high enough for premium payments when premiums are also offered for spring wheat.

PRODUCTION OF MONTANA WHEAT BY PROTEIN CONTENT GROUPS

Purpose: A review of historical base market prices for wheat and premiums offered for protein in wheat points up the fact that the value of protein in Montana wheat has been very significant. While most growers market their wheat on protein tests and take advantage of the premiums, they have little knowledge of the general supply of high protein wheat. As a means of acquainting growers, the grain trade and others with the quantity of high protein wheat produced in Montana, surveys were made covering the 1951 and 1952 crops which provided the information appearing in the tables, graphs and maps contained in this bulletin.

For this project State funds were matched with Federal funds received from the Production and Marketing Administration, U. S. D. A.,under provisions of the Agricultural Marketing Act of 1946.

Source of Data: Reports on the quantity of wheat produced by kinds, by cropping practices and protein content were collected by mail questionnaires from wheat growers throughout Montana. The survey covering the 1951 crop was conducted in February 1952 and was comprised of 3,036 returns, which accounted for approximately 12 percent of the total wheat produced. Data relating to the 1952 crop were collected by a similar survey in February 1953 which was reported by 4,391 growers and accounted for about 19 percent of the total crop. With samples of more than 10 percent which are properly represented for all producing areas, reasonably accurate data of the kind presented in this bulletin can be prepared. Samples on both surveys were considered adequate for determination of wheat production by protein content groups for the principal producing counties. In cases where the survey data were inadequate or wheat production insignificant, appropriate footnotes to the tables are shown.

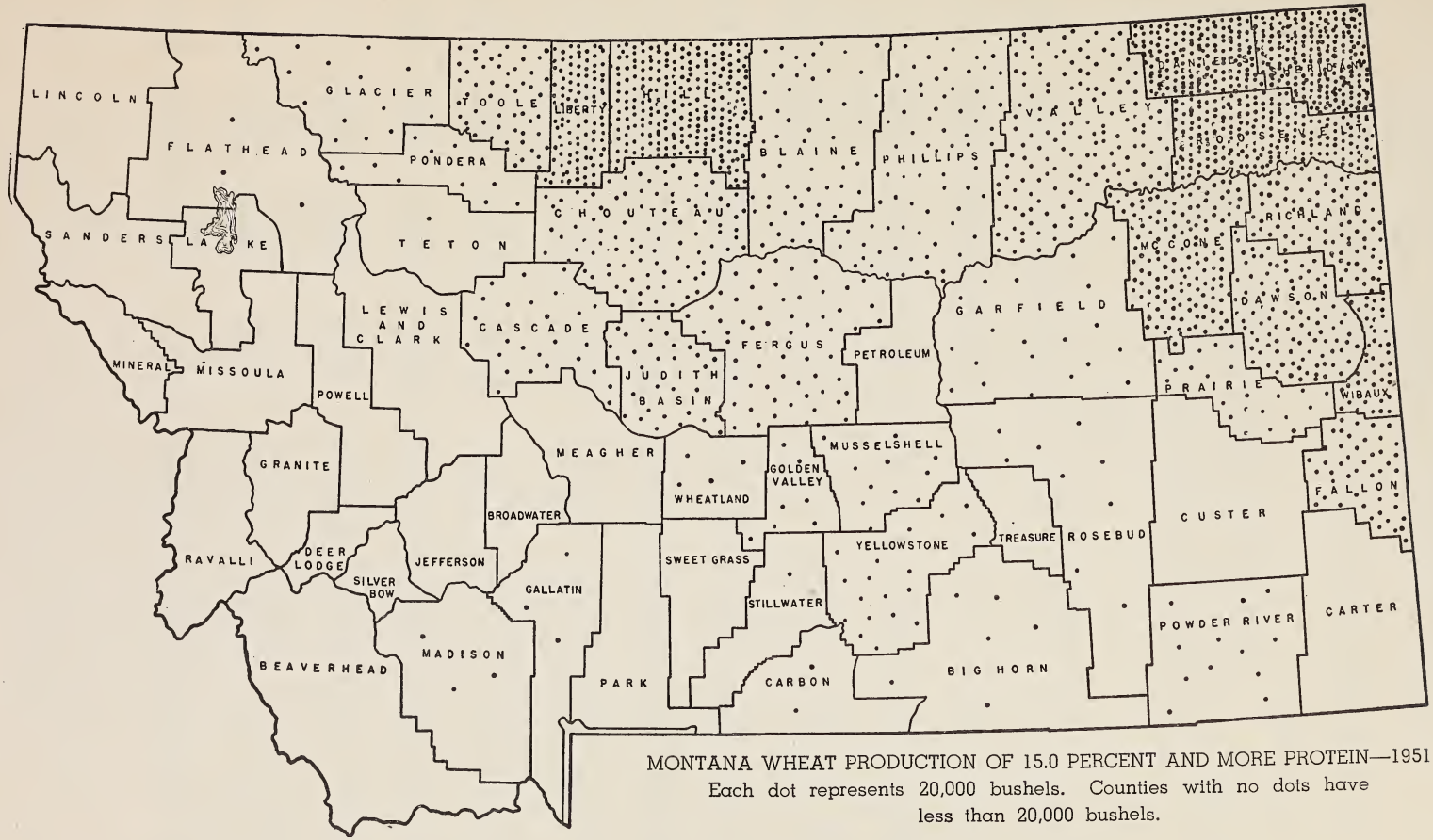
State Data: The average percent protein in all Montana wheat harvested in 1952 was 14.1 percent. This compares with 14.3 percent for the 1951 crop. The average for the 1952 spring wheat was 14.6 percent, 0.3 less than the preceding year. Protein in the 1952 winter wheat averaged 13.2 percent which was 0.2 less than in 1951. In both years only about one-fourteenth of

the wheat contained less than 12 percent protein and in 1951 nearly one-tenth of the crop contained protein of 17 percent or more. Only one-fiftieth of the total crop was in the 17 percent or over bracket in 1952. By cropping practices, irrigated winter wheat has the least amount and spring wheat grown on summer fallow land the greatest amount of protein.

County Data: In Montana, 37 of the 56 counties produce significant quantities of wheat and during 1951 more than a million bushels of wheat were produced in each of 25 counties. For several years, Chouteau County has headed the list in total wheat production, but Hill County leads in output of wheat containing 15 percent and more protein. Wheat of high protein content is grown generally in the extreme northern and eastern tiers of counties. During 1951 and 1952, the protein average was highest in the east-central portion of the State.

PRODUCTION OF MONTANA WHEAT BY PROTEIN CONTENT GROUPS AND CROPPING PRACTICES — 1952

PROTEIN GROUP	CROPPING PRACTICES				TOTAL	
	Irrigated Land	Summer Fallow Land	Other Dry Land	Volunteer	Bushels	Percent
Percent	Bushels Produced					
ALL WHEAT						
10.9 and under	451,600	2,017,400	130,500	10,600	2,610,100	3.1
11.0 - 11.9	1,032,200	2,589,400	149,400	21,200	3,792,200	4.5
12.0 - 12.9	1,680,900	6,222,000	588,700	44,500	8,536,100	10.2
13.0 - 13.9	1,472,200	14,000,500	1,235,400	60,700	16,768,800	20.1
14.0 - 14.9	868,100	18,608,800	1,939,600	45,400	21,461,900	25.7
15.0 - 15.9	185,700	16,664,300	1,830,000	15,400	18,695,400	22.4
16.0 - 16.9	56,700	8,970,100	1,083,400	12,500	10,122,700	12.1
17.0 - 17.9	.....	1,148,400	349,800	5,800	1,504,000	1.8
18.0 and over	.....	43,800	13,000	.....	56,800	.1
TOTAL	**5,747,400**	**70,264,700**	**7,319,800**	**216,100**	**83,548,000**	**100.0**
Av. % protein	12.6	14.2	14.5	13.5	14.1	
WINTER WHEAT						
10.9 and under	177,300	1,798,300	26,700	10,600	2,012,900	7.0
11.0 - 11.9	439,400	2,195,000	39,100	21,200	2,694,700	9.4
12.0 - 12.9	389,100	4,469,300	121,600	44,500	5,024,500	17.4
13.0 - 13.9	176,000	8,304,000	236,400	60,700	8,777,100	30.5
14.0 - 14.9	107,200	6,558,600	246,400	45,400	6,957,600	24.1
15.0 - 15.9	26,500	2,247,900	117,400	15,400	2,407,200	8.4
16.0 - 16.9	8,000	819,800	32,500	12,500	872,800	3.0
17.0 - 17.9	.....	52,900	12,500	5,800	71,200	.2
18.0 and over	.....	.....	.....	.....	.....	.....
TOTAL	**1,323,500**	**26,445,800**	**832,600**	**216,100**	**28,818,000**	**100.0**
Av. % protein	12.1	13.2	13.6	13.5	13.2	
SPRING WHEAT						
10.9 and under	274,300	219,100	103,800	.....	597,200	1.1
11.0 - 11.9	592,800	394,400	110,300	.....	1,097,500	2.0
12.0 - 12.9	1,291,800	1,752,700	467,100	.....	3,511,600	6.4
13.0 - 13.9	1,296,200	5,696,500	999,000	.....	7,991,700	14.6
14.0 - 14.9	760,900	12,050,200	1,693,200	.....	14,504,300	26.5
15.0 - 15.9	159,200	14,416,400	1,712,600	.....	16,288,200	29.8
16.0 - 16.9	48,700	8,150,300	1,050,900	.....	9,249,900	16.9
17.0 - 17.9	.....	1,095,500	337,300	.....	1,432,800	2.6
18.0 and over	.....	43,800	13,000	.....	56,800	.1
TOTAL	**4,423,900**	**43,818,900**	**6,487,200**	.....	**54,730,000**	**100.0**
Av. % protein	12.7	14.8	14.6	.....	14.6	



MONTANA WHEAT PRODUCTION OF 15.0 PERCENT AND MORE PROTEIN—1951

Each dot represents 20,000 bushels. Counties with no dots have less than 20,000 bushels.

MONTANA WHEAT PRODUCTION BY PROTEIN CONTENT GROUPS — 1951 CROP

Counties Arranged in Order of Production Containing 15.0 Percent or More Protein

COUNTY	PRODUCTION BY PROTEIN CONTENT GROUP					COUNTY RANK	
	Under 13.0 Percent	13.0 - 13.9 Percent	14.0 - 14.9 Percent	15.0 Percent and More	Total Production	15% Protein and over	All Wheat
	Bushels						
Hill	30,300	162,300	634,700	4,918,300	5,745,600	1	4
Roosevelt	66,100	133,100	382,800	4,220,400	4,802,400	2	5
Sheridan	11,000	34,300	537,300	4,001,200	4,583,800	3	7
Valley	164,000	223,800	550,000	3,038,300	3,976,100	4	8
Daniels	.....	178,900	466,100	3,028,800	3,673,800	5	10
McCone	.....	.....	129,900	2,643,000	2,772,900	6	12
Liberty	48,900	.....	139,200	2,117,500	2,305,600	7	16
Chouteau	824,500	4,007,900	4,317,500	1,966,300	11,116,200	8	1
Richland	96,700	227,000	613,400	1,849,200	2,786,300	9	11
Dawson	30,000	174,200	408,200	1,841,100	2,453,500	10	15
Phillips	84,500	76,000	125,700	1,556,400	1,842,600	11	19
Fergus	379,000	767,400	1,599,700	1,203,600	3,949,700	12	9
Toole	472,200	445,100	650,600	1,122,300	2,690,200	13	13
Blaine	66,900	40,200	196,800	1,110,700	1,414,600	14	22
Fallon	40,400	25,100	64,000	911,500	1,041,000	15	25
Wibaux	.....	.....	186,800	877,000	1,063,800	16	24
Judith Basin	126,200	551,600	446,300	604,600	1,728,700	17	20
Cascade	2,328,100	1,406,100	327,300	523,600	4,585,100	18	6
Prairie	.....	23,600	203,900	435,500	663,000	19	29
Garfield	.....	1,800	1,400	398,000	401,200	20	33
Yellowstone	1,147,600	340,500	318,500	367,600	2,174,200	21	17
Glacier	1,153,200	64,300	138,900	286,800	1,643,200	22	21
Powder River	8,100	39,400	76,400	238,700	362,600	23	36
Musselshell	.....	.....	181,300	214,800	396,100	24	34
Pondera	2,096,000	3,019,600	1,055,900	208,800	6,380,300	25	3
Rosebud	171,400	100,700	34,500	170,100	476,700	26	30
Golden Valley	39,400	118,400	70,800	148,700	377,300	27	35
Big Horn	1,187,900	178,200	495,600	125,900	1,987,600	28	18
Wheatland	29,900	30,100	42,300	87,800	190,100	29	37
Flathead	494,400	177,500	84,000	63,000	818,900	30	27
Madison	269,100	52,400	84,900	58,700	465,100	31	31
Gallatin	1,894,100	485,100	124,600	55,400	2,559,200	32	14
Carbon	512,000	263,100	86,800	42,200	904,100	33	26
Stillwater	595,700	354,400	195,700	28,500	1,174,300	34	23
Teton	3,031,200	2,829,600	832,500	15,300	6,708,600	35	2
Lewis & Clark	282,300	66,400	56,500	12,900	418,100	36	32
Park	464,000	113,200	116,300	6,500	700,000	37	28
Other Counties	2,279,500	214,300	250,600	956,100	3,700,500		
STATE	**20,424,600**	**16,925,600**	**16,227,700**	**41,455,100**	**95,033,000**		

MONTANA WHEAT PRODUCTION BY PROTEIN CONTENT GROUPS — 1952 CROP

Counties Arranged in Order of Production Containing 15.0 Percent or More Protein

COUNTY	PRODUCTION BY PROTEIN CONTENT GROUP					COUNTY RANK	
	Under 13.0 Percent	13.0 - 13.9 Percent	14.0 - 14.9 Percent	15.0 Percent and More	Total Production	15% Protein and over	All Wheat
			Bushels				
Hill	343,500	1,066,300	2,364,800	3,121,900	6,896,500	1	2
Roosevelt	6,500	68,200	393,400	2,780,700	3,248,800	2	9
Sheridan	84,400	426,700	1,179,300	2,332,700	4,023,100	3	6
Liberty	19,300	80,800	989,100	2,072,900	3,162,100	4	11
Valley	189,400	602,400	1,122,300	1,882,800	3,796,900	5	7
Phillips	76,600	66,700	962,500	1,749,400	2,855,200	6	13
Blaine	69,400	293,600	410,900	1,580,700	2,354,600	7	15
McCone	2,400	8,400	27,700	1,483,000	1,521,500	8	20
Chouteau	324,700	2,543,800	3,152,700	1,443,200	7,464,400	9	1
Richland	78,400	190,900	272,900	1,300,500	1,842,700	10	17
Pondera	606,600	1,271,700	1,487,800	1,244,300	4,610,400	11	4
Fergus	726,500	1,208,500	876,200	1,219,300	4,030,500	12	5
Toole	179,800	433,200	1,972,700	1,127,700	3,713,400	13	8
Daniels	214,500	947,500	912,300	1,126,700	3,201,000	14	10
Dawson	16,700	27,900	107,600	970,200	1,122,400	15	23
Teton	1,522,400	1,445,400	1,188,900	917,800	5,074,500	16	3
Fallon	.....	500	25,100	633,800	659,400	17	27
Judith Basin	259,900	663,300	243,200	483,000	1,649,400	18	19
Cascade	689,500	1,474,000	445,200	467,700	3,076,400	19	12
Wibaux	.....	6,700	34,800	399,000	440,500	20	29
Glacier	197,300	526,400	479,400	296,200	1,499,300	21	21
Garfield	2,100	.....	16,100	185,100	203,300	22	37
Rosebud	35,400	44,900	79,400	159,700	319,400	23	32
Prairie	1,500	26,500	23,000	157,800	208,800	24	36
Big Horn	204,900	707,500	740,500	152,700	1,805,600	25	18
Musselshell	6,000	29,100	118,000	144,500	297,600	26	33
Yellowstone	952,500	362,700	655,600	143,200	2,114,000	27	16
Powder River	14,100	27,600	134,100	84,000	259,800	28	34
Flathead	819,000	90,200	54,500	57,900	1,021,600	29	24
Stillwater	708,000	557,700	156,300	43,400	1,465,400	30	22
Golden Valley	201,000	139,000	88,700	38,600	467,300	31	28
Wheatland	89,400	20,600	76,200	23,400	209,600	32	35
Madison	288,900	73,100	26,400	13,300	401,700	33	31
Carbon	742,000	125,300	71,300	10,500	949,100	34	26
Gallatin	2,481,200	132,600	16,500	10,200	2,640,500	35	14
Lewis & Clark	284,400	98,200	13,800	9,600	406,000	36	30
Park	638,200	318,200	60,600	.....	1,017,000	37	25
Other Counties	1,862,000	662,700	482,100	511,500	3,518,300		
STATE	**14,938,400**	**16,768,800**	**21,461,900**	**30,378,900**	**83,548,000**		

MONTANA WHEAT PRODUCTION AND AVERAGE PERCENT PROTEIN — 1951 CROP

Counties Arranged in Order of Percent Protein in All Wheat

COUNTY	ALL WHEAT		SPRING WHEAT		WINTER WHEAT	
	Bushels Produced	Average Percent Protein	Bushels Produced	Average Percent Protein	Bushels Produced	Average Percent Protein
Garfield	401,200	16.8	390,000	16.8	11,200	15.0
Phillips	1,842,600	16.6	1,816,200	16.7	26,400	14.9
McCone	2,772,900	16.4	2,730,600	16.4	42,300	15.0
Wibaux	1,063,800	16.0	1,058,400	15.9	5,400	14.2
Blaine	1,414,600	16.0	1,376,800	16.1	37,800	14.2
Liberty	2,305,600	15.9	1,936,000	15.9	369,600	15.7
Roosevelt	4,802,400	15.9	4,800,600	15.9	1,800	13.9
Hill	5,745,600	15.8	4,928,400	15.9	817,200	15.1
Fallon	1,041,000	15.8	1,027,800	16.5	13,200	13.2
Sheridan	4,583,800	15.8	4,583,800	15.8	.....	*
Dawson	2,453,500	15.7	2,451,100	15.7	2,400	15.8
Daniels	3,678,300	15.6	3,673,800	15.6	4,500	*
Valley	3,976,100	15.5	3,957,100	15.5	19,000	14.2
Musselshell	396,100	15.4	85,600	16.2	310,500	14.4
Richland	2,789,900	15.2	2,786,300	15.3	3,600	*
Prairie	663,000	15.2	585,600	15.5	77,400	14.6
Powder River	362,600	15.0	116,200	15.1	246,400	14.9
Toole	2,690,200	14.4	2,607,000	14.3	83,200	15.4
Judith Basin	1,728,700	14.3	1,121,200	14.4	607,500	14.2
Golden Valley	377,300	14.1	66,800	15.0	310,500	14.0
Fergus	3,949,700	14.1	1,911,700	14.8	2,038,000	13.7
Wheatland	190,100	14.0	110,200	14.4	79,900	14.0
Chouteau	11,116,200	13.9	2,968,700	14.5	8,147,500	13.8
Rosebud	476,700	13.4	274,400	14.2	202,300	13.1
Pondera	6,380,300	13.2	5,730,200	13.1	650,100	12.9
Yellowstone	2,174,200	12.9	384,300	12.9	1,789,900	12.9
Teton	6,708,600	12.7	4,389,400	13.0	2,319,200	12.2
Glacier	1,643,200	12.7	1,571,200	12.9	72,000	12.1
Big Horn	1,987,600	12.7	516,300	13.3	1,471,300	12.7
Cascade	4,585,100	12.7	1,400,200	13.7	3,184,900	12.3
Flathead	818,900	12.5	271,500	12.8	547,400	12.3
Carbon	904,100	12.7	570,200	12.9	333,900	11.7
Lewis & Clark	418,100	12.4	188,000	12.8	230,100	12.1
Park	700,000	12.3	238,700	12.7	461,300	12.4
Stillwater	1,174,300	12.2	228,200	12.9	946,100	12.6
Madison	465,100	12.1	262,200	13.2	202,900	12.1
Gallatin	2,559,200	11.8	1,002,600	12.4	1,556,600	11.5
Other Counties	3,692,400	12.7	2,234,700	12.9	1,457,700	12.3
STATE	**95,033,000**	**14.4**	**66,352,000**	**15.0**	**28,681,000**	**13.0**

* Production insignificant. Survey data inadequate for accurate protein average.

MONTANA WHEAT PRODUCTION AND AVERAGE PERCENT PROTEIN — 1952 CROP

Counties Arranged in Order of Percent Protein in All Wheat

COUNTY	ALL WHEAT		SPRING WHEAT		WINTER WHEAT	
	Bushels Produced	Average Percent Protein	Bushels Produced	Average Percent Protein	Bushels Produced	Average Percent Protein
Wibaux	440,500	16.3	438,900	16.5	1,600	*
McCone	1,521,500	16.2	1,494,500	16.3	27,000	13.9
Fallon	659,400	16.1	643,800	16.2	15,600	15.4
Garfield	203,300	15.8	190,700	16.1	12,600	15.0
Dawson	1,122,400	15.7	1,115,400	15.7	7,000	*
Roosevelt	3,248,800	15.6	3,246,400	15.6	2,400	*
Prairie	208,800	15.3	154,800	15.1	54,000	15.5
Liberty	3,162,100	15.1	2,390,700	15.3	771,400	14.7
Musselshell	297,600	15.1	46,800	16.0	250,800	14.7
Richland	1,842,700	15.0	1,831,900	15.0	10,800	*
Phillips	2,855,200	15.0	2,836,800	15.0	18,400	*
Powder River	259,800	15.0	79,900	14.9	179,900	15.0
Sheridan	4,023,100	14.8	4,021,300	14.8	1,800	*
Blaine	2,354,600	14.8	2,272,100	14.9	82,500	14.0
Valley	3,796,900	14.6	3,787,900	14.6	9,000	*
Rosebud	319,400	14.6	166,200	14.3	153,200	14.8
Hill	6,896,500	14.6	4,942,000	14.8	1,954,500	14.2
Toole	3,713,400	14.4	3,535,200	14.4	178,200	13.8
Daniels	3,201,000	14.2	3,201,000	14.3	0	*
Chouteau	7,464,400	14.0	1,395,600	14.7	6,068,800	13.9
Pondera	4,610,400	14.0	4,050,800	14.1	559,600	13.5
Glacier	1,499,300	13.9	1,369,000	14.0	130,300	13.7
Judith Basin	1,649,400	13.9	700,800	14.9	948,600	13.4
Fergus	4,030,500	13.8	1,495,000	14.8	2,535,500	13.3
Big Horn	1,805,600	13.8	381,400	13.2	1,424,200	13.8
Cascade	3,076,400	13.4	789,200	14.4	2,287,200	13.0
Teton	5,074,500	13.3	3,441,000	14.0	1,633,500	12.6
Wheatland	209,600	13.1	95,500	14.2	114,100	12.6
Yellowstone	2,114,000	12.9	312,800	13.3	1,801,200	12.8
Golden Valley	467,300	12.9	58,800	14.4	408,500	12.8
Stillwater	1,465,400	12.6	134,000	12.9	1,331,400	12.6
Lewis & Clark	406,000	12.3	161,000	12.7	245,000	11.9
Flathead	1,021,600	12.2	302,800	12.8	718,800	12.0
Park	1,017,000	12.1	223,200	12.5	793,800	12.0
Carbon	949,100	11.9	429,400	12.6	519,700	11.7
Madison	401,700	11.6	226,200	11.7	175,500	11.6
Gallatin	2,640,500	11.1	828,600	11.7	1,811,900	10.9
Other counties	3,518,300	12.1	1,938,600	12.2	1,579,700	11.9
STATE	**83,543,000**	**14.1**	**54,730,000**	**14.6**	**28,818,000**	**13.2**

* Production insignificant. Survey data inadequate for accurate protein average.

PREMIUMS OFFERED FOR PROTEIN IN WHEAT

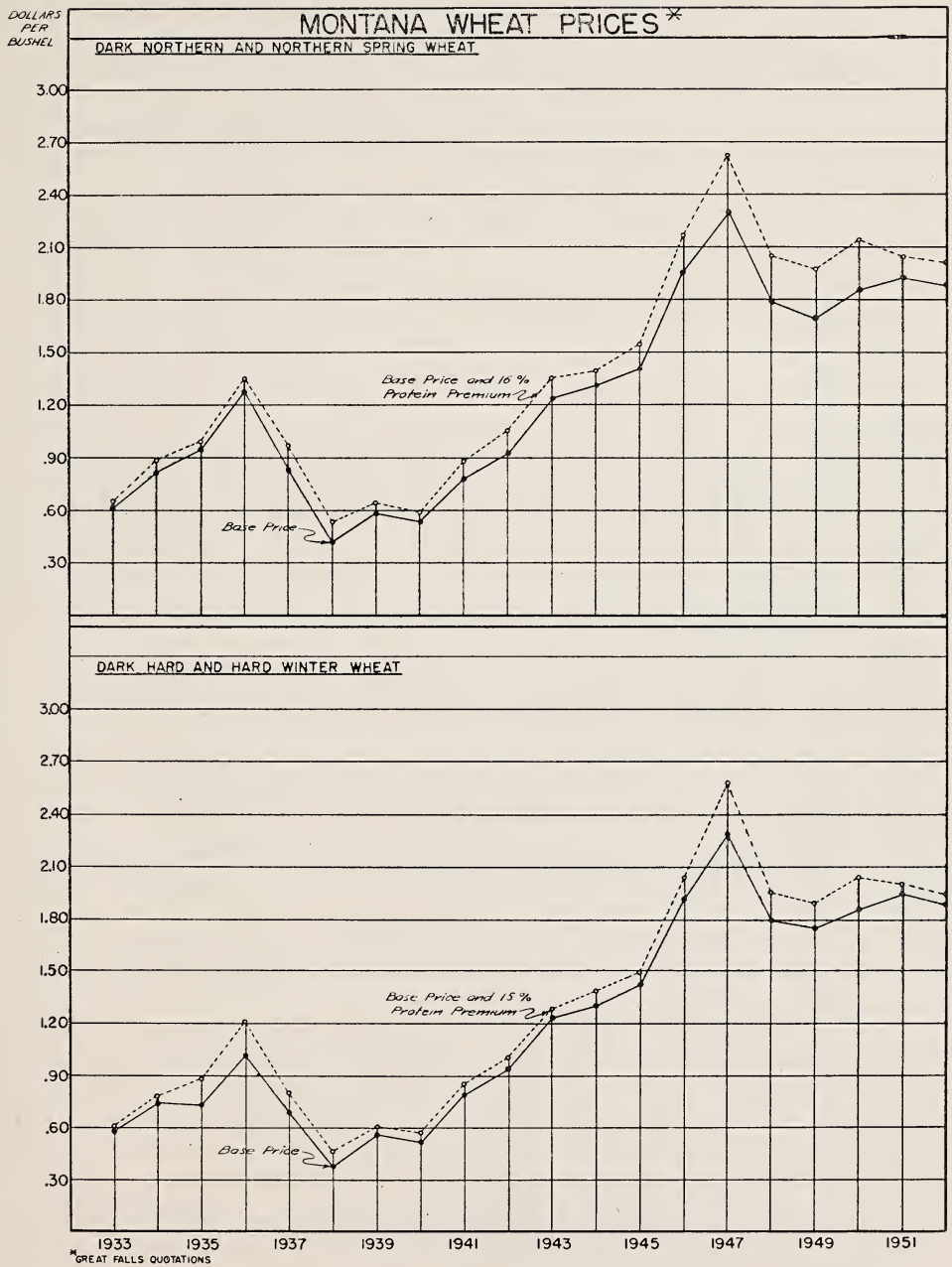
An appreciable part of the market price of Montana wheat is comprised of premiums offered for protein. For the 20-year period, 1933-52, the premium quoted at Great Falls for 16 percent protein spring wheat amounted to more than one-tenth of the total price. During the first four years of this period, protein premiums for spring wheat were relatively low but they hit a peak in July 1938 when the premium for 16 percent protein spring wheat amounted to 29 percent of the total price. Premiums declined thereafter with some fluctuation until 1944 when they strengthened and held fairly steady until 1951. The lowest offerings during the period were in the months of March to June 1952 when they amounted to only 2 percent of the total price. The protein premium pattern for winter wheat, while at a lower level, has closely followed that of spring wheat during the past 15 years.

Protein premiums are usually established at the time of harvest. Monthly averages for the 1933-52 period show that protein premiums for winter wheat were higher in July than any other month and for spring wheat they were highest in November and second highest in August.

SEASONAL TREND OF WHEAT PRICES AND PROTEIN PREMIUMS
20-YEAR AVERAGE, 1933-52, BY MONTHS

(Great Falls Quotations)

MONTH	Dark Northern and Northern Spring				Dark Hard and Hard Winter			
	Base Price No. 1 Heavy	Protein Premium		Percent 16% Protein Premium is of Base Price	Base Price No. 1 Heavy	Protein Premium		Percent 14% Protein Premium is of Base Price
		15%	16%			13%	14%	
	Dol.	Cts.	Cts.	Percent	Dol.	Cts.	Cts.	Percent
January	1.21	9.8	13.7	11.3	1.17	5.0	8.0	6.8
February	1.19	9.2	13.3	11.2	1.15	4.6	7.4	6.4
March	1.21	8.2	12.1	10.0	1.17	4.1	6.7	5.7
April	1.22	8.4	12.2	10.0	1.18	4.0	6.8	5.8
May	1.21	8.4	12.2	10.1	1.17	4.6	7.2	6.2
June	1.20	9.6	13.7	11.4	1.15	4.5	7.2	6.3
July	1.24	10.8	15.4	12.4	1.18	5.8	9.3	7.9
August	1.17	10.8	15.2	13.0	1.13	4.8	7.5	6.6
September	1.21	9.8	14.2	11.7	1.17	5.0	8.2	7.0
October	1.21	10.0	14.4	11.9	1.19	4.7	8.0	6.7
November	1.25	10.8	16.0	12.8	1.22	4.6	8.0	6.6
December	1.28	9.6	14.2	11.1	1.24	4.6	7.6	6.1
TOTAL	1.22	9.6	13.9	11.4	1.18	4.7	7.7	6.5


MONTANA WHEAT PRICES*
DOLLARS PER BUSHEL
DARK NORTHERN AND NORTHERN SPRING WHEAT
3.00
2.70
2.40
2.10
1.80
1.50
1.20
.90
.60
.30
Base Price and 16% Protein Premium
Base Price
DARK HARD AND HARD WINTER WHEAT
3.00
2.70
2.40
2.10
1.80
1.50
1.20
.90
.60
.30
Base Price and 15% Protein Premium
Base Price
1933
1935
1937
1939
1941
1943
1945
1947
1949
1951
*GREAT FALLS QUOTATIONS

MONTANA WHEAT PRICES

Cash Prices and Protein Premiums at Great Falls[1]

CROP YEAR[2]	DARK NORTHERN AND NORTHERN SPRING								DARK HARD AND HARD WINTER							
	Base Price No. 1 Heavy	Protein Premium						Percent 16% Protein Premium is of Base Price	Base Price No. 1 Heavy	Protein Premium						Percent 15% Protein Premium is of Base Price
		12%	13%	14%	15%	16%	17%			11%	12%	13%	14%	15%	16%	
	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Percent	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Percent
1933	60.4	.....	.....	.7	3.2	5.1	.....	8.4	58.5	.....	1.2	2.2	3.1	.....	.....	5.3[3]
1934	81.0	.....	.8	2.4	4.4	7.7	.....	9.5	73.9	1.2	3.1	4.1	5.2	.....	.....	7.0[3]
1935	93.7	.....	.2	1.5	3.2	4.9	.....	5.2	73.1	2.9	8.6	12.6	15.4	.....	.....	21.1[3]
1936	126.1	.....	1.1	4.6	6.4	8.4	.....	6.7	102.5	.4	4.3	11.2	18.0	18.2	19.3	17.8
1937	82.9	.....	1.7	4.0	8.7	13.7	.....	16.5	69.5	.....	3.3	6.3	9.1	11.1	12.3	16.0
1938	42.7	.2	.7	3.2	6.7	10.6	.....	24.8	37.3	.8	3.2	5.0	7.5	8.9	10.8	23.9
1939	58.5	.....	.2	1.2	2.8	5.5	4.9	9.4	56.2	.....	.6	2.0	3.5	4.8	6.3	8.5
1940	53.6	.....	.3	1.4	3.0	4.9	7.0	9.1	52.8	.....	.2	.7	2.2	3.7	5.1	7.0
1941	79.4	.....	1.2	4.7	7.2	9.2	11.3	11.6	79.1	.7	1.7	2.8	5.0	6.9	8.9	8.7
1942	93.2	.5	2.5	6.9	10.5	12.7	15.8	13.6	94.3	.....	.2	1.3	3.7	6.0	8.0	6.4
1943	123.2	.....	.6	2.7	6.5	10.7	14.2	8.7	124.1	.....	.....	1.0	1.8	4.4	7.3	3.5
1944	130.5	1.2	4.2	7.7	11.6	15.6	19.6	12.0	130.1	.....	.9	4.5	6.8	8.9	10.9	6.8
1945	140.3	1.1	3.8	5.8	10.2	14.2	18.2	10.1	142.5	.2	1.2	3.8	5.2	7.2	9.2	5.1
1946	195.2	1.0	4.5	9.2	15.1	20.7	26.6	10.6	191.6	.2	1.2	5.4	8.0	11.8	15.7	6.1
1947	229.7	2.8	10.8	19.3	28.3	36.0	43.7	15.7	228.7	.....	3.1	11.2	20.1	28.7	36.4	12.5
1948	179.7	2.3	6.1	10.5	16.0	25.8	35.2	14.4	178.8	.....	2.4	6.2	10.0	16.1	25.8	9.0
1949	176.2	1.3	4.7	8.5	14.0	20.0	26.1	11.4	174.5	.....	1.9	5.9	10.2	14.7	20.2	8.4
1950	185.2	1.0	4.2	9.9	18.4	27.5	36.1	14.8	184.6	.....	.9	4.2	9.9	18.4	27.7	10.0
1951	192.7	.6	2.1	3.9	7.7	11.6	15.4	6.0	193.5	.....	.4	1.6	4.1	6.4	9.7	3.3
1952	187.8	.4	2.0	4.4	7.6	13.2	19.1	19.1	188.8	.....	.5	1.9	3.7	5.5	7.0	2.9

[1] Simple averages of quotations extracted from the Great Falls Tribune for one day each month centering mid-month.

[2] July of year shown to June following year.

[3] Computed from 14 percent premiums.

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